

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**In re Application of:**

# Toyonobu Tanaka

**Serial No. 10/697,407**

**Filed: October 30, 2003**

**Art Unit: 1742**

**Patent Examiner: Janell Combs Morillo**

Attorney Docket No. 03-211

**Confirmation No.: 7232**

# BIOMEDICAL SUPERELASTIC TI-BASED ALLOY AND ITS MANUFACTURING METHOD

Mail Stop: Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

April 21, 2006

## RESPONSE TO RESTRICTION REQUIREMENT

This communication is in response to an Election/Restriction Requirement concerning the above-identified application, mailed on March 27, 2006.

**Amendments to the claims** begin on page 2 of this paper.

**Remarks** begin on page 5 of this paper.

We claim:

1. (Original) A biomedical superelastic Ti-based alloy containing 5 to 40 at % of Nb that is an element for stabilizing .beta.-phase of Ti, and containing Ti and unavoidable impurities as the residual part.
2. (Original) The biomedical superelastic Ti-based alloy according to claim 1, further containing:
  - (a) one or more elements selected from the group consisting of 10 at % or less of Mo, 15 at % or less of Al, 10 at % or less of Ge, 10 at % or less of Ga, and 15 at % or less of In;
  - (b) 30 at % or less of a sum total of the one or more elements selected from the group consisting of Mo, Al, Ge, Ga, and In;
  - (c) 60 at % or less of a sum total of Nb and the one or more elements selected from the group consisting of Mo, Al, Ge, Ga, and In; and
  - (d) Ti and unavoidable impurities as the residual part.
3. (Original) The biomedical superelastic Ti-based alloy according to claim 1, further containing:
  - (a) one or more elements selected from the group consisting of 7 at % or less of Mo, 10 at % or less of Al, 6 at % or less of Ge, and 6 at % of Ga;
  - (b) 60 at % or less of a sum total of Nb and the one or more elements selected from the group consisting of Mo, Al, Ge, and Ga; and
  - (c) Ti and unavoidable impurities as the residual part.
4. (Original) The biomedical superelastic Ti-based alloy according to claim 1, further containing:
  - (a) one or more elements selected from the group consisting of 10 at % or less of Mo, 15 at % or less of Al, 10 at % or less of Ge, 10 at % or less of Ga, and 15 at % or less of In;
  - (b) 15 at % or less of Sn;
  - (c) 30 at % or less of a sum total of the one or more elements selected from the group consisting of Mo, Al, Ge, Ga, and In, and Sn;
  - (d) 60 at % or less of a sum total of Nb, the one or more elements selected from the group consisting of Mo, Al, Ge, Ga and In, and Sn; and
  - (e) Ti and unavoidable impurities as the residual part.

5. (Original) The biomedical superelastic Ti-based alloy according to claim 1, further containing:
- (a) one or more elements selected from the group consisting of 7 at % or less of Mo, 10 at % or less of Al, 6 at % or less of Ge, and 6 at % or less of Ga;
  - (b) 12 at % or less of Sn;
  - (c) 60 at % or less of a sum total of Nb, one or more elements selected from the group consisting of Mo, Al, Ge and Ga, and Sn; and
  - (d) Ti and unavoidable impurities as the residual part.
6. (Original) The biomedical superelastic Ti based alloy according to any one of claims 1 to 5, wherein the alloy is for use in either of a medical guide wire, an orthodontic wire, a stent, an eyeglass frame, a nose pad arm of eyeglass, and an actuator of an endoscope.
7. (Original) A medical guide wire made of the biomedical superelastic alloy according to any one of claims 1 to 5.
8. (Original) An orthodontic wire made of the biomedical superelastic alloy according to any one of claims 1 to 5.
9. (Original) A stent made of the biomedical superelastic alloy according to any one of claims 1 to 5.
10. (Original) An eyeglass frame or a nose pad arm of eyeglass made of the biomedical superelastic alloy according to any one of claims 1 to 5.
11. (Original) An actuator of an endoscope made of the biomedical superelastic alloy according to any one of claims 1 to 5.
12. (Withdrawn)
13. (Withdrawn)

14. (Withdrawn)

15. (Withdrawn)

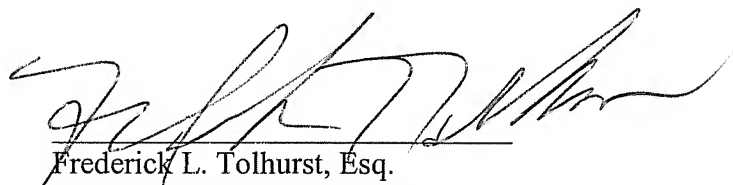
## REMARKS

### Election of Claims

Claims 1-15 are currently pending. In response to an election request pursuant to 35 U.S.C. § 121, Applicant provisionally elects without traverse to prosecute the invention of species drawn to Ti-Nb alloy, classified in class 420, subclass 417, as per claims 1-11. Applicant hereby withdraws Claims 12-15 from consideration pursuant to 37 C.F.R. § 1.142(b) as being drawn to a non-elected invention.

Respectfully submitted,

By



Frederick L. Tolhurst, Esq.  
PTO Registration No. 28,123  
Cohen & Grigsby, P.C.  
11 Stanwix Street, 15th Floor  
Pittsburgh, PA 15222-1319  
(412) 297-4900